Urban and Agricultural Encroachment onto Fraser Lowland Wetlands—1989 to 1999

Kathleen Moore *and* ***Peggy Ward***
Environment Canada

Katrina Roger
Environment Canada / Ducks Unlimited Canada

[Editor's note: The authors have provided their PowerPoint presentation.

To view the presentation select the PowerPoint icon]

Abstract

The Canadian Wildlife Service published a technical report entitled "Wetlands of the Fraser Lowland, 1989: An Inventory," which included maps and descriptions of wetlands in the settled area between Vancouver and Chilliwack, British Columbia. With funding from the Georgia Basin Ecosystem Initiative, these maps were subsequently converted into a current geographical information system (GIS) environment, missing wetlands were added, corrections were made, the polygons were georeferenced to a finer-scale basemap, and then were compared to 1999 orthophotos to assess change. Wetlands that were part of the Fraser River Estuary Management Program were not included in the assessment. A total of 320 wetlands, as well as 10 partly outside of the FREMP inventory, were assessed for changes between 1989 and 1999. The purpose was to identify the number and total area of wetlands that have been affected by urban and agricultural encroachment over this 10-year period. Results indicate that one in five wetlands had been affected by encroachment and to varying degrees. Half experienced a loss of fewer than 5% of their original size, while more than one quarter experienced a 5-15% loss. About 41% of the lost wetland area was to agricultural development, the remainder to various urban developments or was in transition to some type of future land use. Most of the agricultural development was for cranberry and berry crop production.

Despite an increased societal recognition in that period of the importance of wetland ecosystems, they continue to be developed. Although a number of the wetlands experienced only small losses, this continual, incremental loss is occurring on what already are mere fragments of the wetlands that were in the area prior to European settlement. Isolated decisions, involving many land use types and many separate planning processes, affecting seemingly trivial amounts of wetland are, in fact, cumulative and unsustainable. Instead, planning must take an ecosystem-based approach that places a priority on protecting the region's wetlands.